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Northwoods Journal

July 2008

Enjoying and Protecting Marinette County's Outdoor Life

In This Issue:

Meet Our Summer Intern!

I'm Andrea Duca, the Conservation Intern for the Land Information Department of Marinette County this summer. So far, my summer has been great learning about the aquatic invasive species in Marinette County and how we are working to research and control those issues. I look forward to doing more fieldwork and learning even more about the aspects of the Land Information Department. I'm currently attending UW-Green Bay majoring in Earth Science with an emphasis in Geology, and a minor in Environmental Science. This fall will be my junior/senior year, and I will graduate in fall of 2009. I really enjoy fieldwork and going on field trips to new places and learning new things. I recently did a geologic study of Pemene Falls, and literature-based research on Michigan and Wisconsin sulfide mining history. My scholastic personal interests are the Precambrian geology of northern/northeast Wisconsin (mostly Penokean age), the glacial history of northeast Wisconsin, and volcanogenic sulfide mining in Michigan and Wisconsin. Outside of class I love going camping and spending time outside, I enjoy classic cars and going to car shows, and I love spending time with my friends and family.

Our Resident Reptiles: Turtles and Lizards

By Greg Cleereman, County Conservationist
Photos courtesy of A.B. Sheldon and WDNR

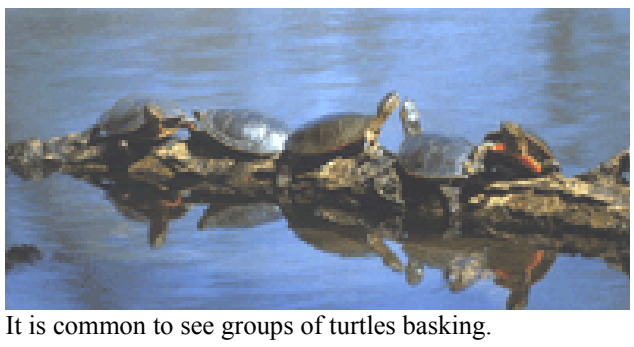
Last month we began our discussion with a general introduction to reptiles of Marinette County. This month we begin looking at this group in greater detail including accounts of individual species, focusing on turtles and our lone species of lizard.

Marinette County is home to five species of turtle: the Common Snapping Turtle, Wood Turtle, Blanding's Turtle, Western Painted Turtle, and the Midland Painted Turtle. Turtles are thought to be our oldest group of reptiles and have changed little in 200 million years. Slow moving and easily recognized by their unique skeleton, turtles are often a child's first exposure to the world of reptiles. Turtles are also our longest living invertebrates and may reach 200 years of age.

Wood Turtle, a threatened species.

The turtle's most obvious feature is its shell, which fuses the spine and ribs. The top (*carapace*) and bottom of the shell (*plastron*) are not one piece but are made of 60 bones. Like all reptiles, turtles are covered with scales. The very large scales on the turtle's carapace are called *scutes*. Like the rest of the skin, scutes are shed once a year. Scutes keep bacteria and fungi from entering the bone of the shell. They also are what give the shell its character in the form of color and texture. Shells of aquatic turtles like Painted or Snapping Turtles are very different from more terrestrial species such as Blanding's Turtles. In aquatic species, the shells are streamlined to reduce water resistance when swimming. The terrestrial turtle's carapace has a higher dome and a hinged plastron to allow the turtle to retreat into its shell when danger threatens.

Many aquatic turtles bask in the sun to increase internal temperature and to increase vitamin D, which is needed for the assimilation of calcium, an important part of shells and eggs. Basking also helps dry out the shell, inhibiting bacterial and fungal growth.



It is common to see groups of turtles basking.

It's tough to tell a male turtle from female, although turtles seem to have no trouble. Males generally have thicker tails and have the *vent* (the opening for the reproductive and waste systems) located in the tail; females' vents are right at the edge of the tail. In many species the male is smaller than the female. Although they can breed any time during the active period, there are two peak breeding periods each year, one right after emergence in the spring and one in August. Courtship rituals are common in turtles. A good example is the Painted Turtle, in which the male swims backwards in concert with the female while waving his claws about her head and stroking her face. If the female likes what she sees, she drops to the bottom and allows mating to begin, which can take up to an hour.

After fertilization, all turtles lay eggs on land in holes they dig themselves, and some turtles travel long distances from water to lay eggs. This often places them at risk from cars, people and animals. Nesting typically starts around dusk, but may continue well into daylight. The number of eggs is totally dependent on the size of the female; for example, a large Snapping Turtle may lay as many as 80 eggs. Once laid, the eggs are on their own and vulnerable to predation. Eggs take 2 to 3 months to hatch, depending on soil temperature, and some eggs laid late in the season may not hatch until the following year. August-laid eggs typically hatch, but the hatchlings stay in the nest underground over the winter. A type of antifreeze keeps eggs and hatchlings from freezing solid although little snow cover or extreme cold can result in high mortality. Lower incubation temperatures result in more males than females in a given clutch of eggs.

Turtle laying eggs; after nesting, females have nothing to do with their eggs or hatchlings.

Once hatched, turtles grow slowly and can take decades to reach sexual maturity. Turtles have adapted their lives to relatively high predation on eggs and young offset by long-lived adults. Historically, only 1-3% of eggs laid result in an adult turtle. This equation has been upset in recent years by great increases in nest predation due to habitat loss and accidents such as car kills eliminating an unnatural number of adults. The implications for turtles in general are dire.

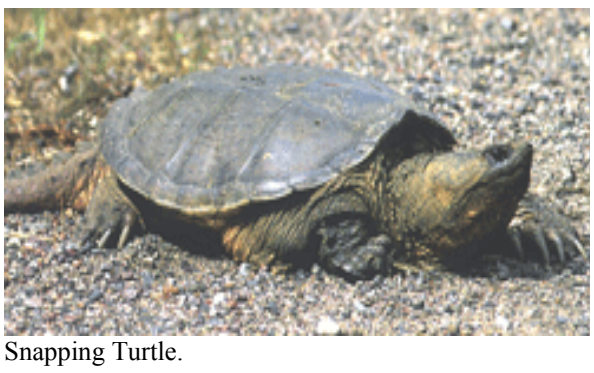
Continued on next page

Resident Reptiles continued

Turtles don't have teeth but have beaks similar to birds. They can't chew food but simply rip off chunks that they swallow whole. The feeding strategies of turtles vary widely: Blanding's Turtles are carnivores; Painted Turtles start off life as insectivores but switch to plants with age and can only eat in water. Box Turtles can only eat on land. Snapping Turtles lie in wait on the bottom of lakes and ponds. When a fish gets close, they make a lightning thrust of their head while simultaneously opening their mouth. The rapid mouth opening creates suction, pulling the prey right in. Wood Turtles use their front legs to pound the ground in simulation of falling rain. The vibration tricks earthworms to rise to the surface where they are eaten. In addition, turtles have excellent noses to locate food and some even have good color vision.

Turtle Species

The Common Snapping Turtle is our largest turtle. Its size, the jagged back edge of its carapace, and row of dorsal scales on its tail make it unmistakable. Snappers prefer slow or still water, and are both predators and scavengers. They are at the top of the food web in most habitats, but its numbers are declining nonetheless.



Snapping Turtle.

The Wood Turtle is semi-aquatic and can be identified by the growth rings on each scute on its carapace. The plastron is yellow with black blotches on the outer edge. Wood Turtles prefer strongly moving water, and feed mostly on land, eating vegetation and invertebrates. They nest communally and are listed as "threatened" in Wisconsin.

Northwoods Journal

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The *Northwoods Journal* focuses on various outdoor recreation opportunities and local environmental topics to inform readers about natural resource use, management, and recreation in Marinette County.

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- Marinette County Parks & Outdoor Recreation Department
- University of Wisconsin-Extension

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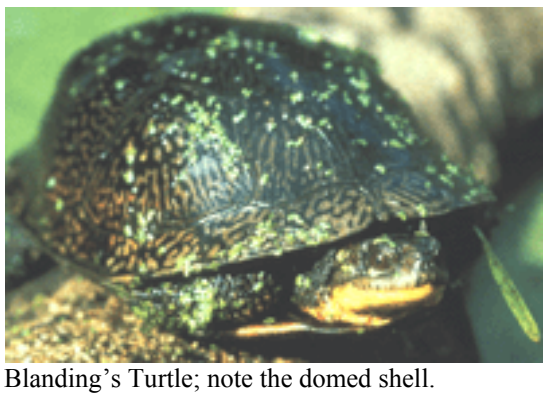
Please send comments to:
Marinette County
Land & Water Conservation
1926 Hall Ave
Marinette, WI 54143
(715) 732-7780
awarren@marinettecounty.com

Blanding's Turtles have a highly domed shell and are brilliant yellow underneath the chin. They spend more time on land than our other turtle species. Blanding's Turtles are omnivores that feed both on land and in the water, and are also are listed as "threatened".



Blanding's Turtle; note the domed shell.

The Western Painted Turtle is by far our most common species. It has a relatively flat smooth carapace. The plastron is light orange with an oak leaf shaped blotch. It prefers slow or still water containing dense vegetation, and is omnivorous, feeding on aquatic insects, crustaceans, worms, algae, and other plants.

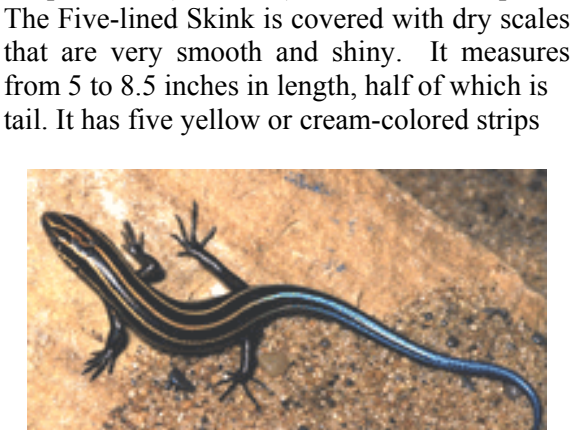
The Midland Painted Turtle is another common species, similar to the Western Painted Turtle, and interbreeding often occurs. It differs from the Western in that its edge scutes have red in them. Like the Western, however, it is an omnivore that feeds strictly in water.

All the turtles of Marinette County spend winter under water, burying themselves or sometimes simply lying on the bottom. They don't hibernate but remain somewhat active, absorbing needed oxygen through their skin. Due to their tolerance of cold and general fasting all winter, turtles emerge as soon as ice melts.

Although eggs and hatchling turtles are easy prey for many birds, mammals, and even fish, mature adults have few natural predators. They tend to blend into their surroundings or spend most of their time where escape routes are close at hand. Adult turtles' main vulnerability comes during breeding season. Shoreline development and road construction have degraded and fragmented turtle habitat. Concentrating egg laying in ever smaller suitable habitat puts females and young at greater risk of predation. Turtle shells provide no defense against the weight of cars or trucks. The nooks and crannies of riprapped shorelines are death traps for both young and adult turtles while seawalls create unclimbable barriers to turtles needing access to upland nesting areas.

Lizard Species

Marinette County is home to a single lizard species, the Five-lined Skink. Like all lizards - and differing from snakes - it has external ear openings and the ability to blink. Lizards are a very diverse group that tends to like warmer temperatures (82°-93° F) than the other reptiles. The Five-lined Skink is covered with dry scales that are very smooth and shiny. It measures from 5 to 8.5 inches in length, half of which is tail. It has five yellow or cream-colored strips that start at the snout and fade out in its tail. The male skinks head becomes bright orange during breeding to warn males and attract females. Also like other reptiles, Five-lined Skinks shed their skin, but in pieces rather than in one piece.



Five-lined Skink.

We are at the northern edge of Five-lined Skink range, leading to a mere five-month active period. Breeding occurs right after emerging from hibernation and begins with visual displays by the male. Males defend territories against adult males but not against females or blue-tailed juveniles. Once a female accepts the male after display, he grabs her neck skin with his mouth and initiates mating. Five to eighteen, half inch long, leathery eggs are laid after about a month and incubated for up to two months. They nest in moist areas because eggs need water during development. Unlike most reptiles, female Five-lined Skinks stay with the eggs to care for them. They curl around the eggs to conserve moisture and may turn them. They even urinate on the eggs as an antibiotic. Females often bask to soak up heat and then return to warm eggs that are too cool. They have also been known to move eggs to more favorable locations.

Female skink protecting her eggs.

For habitat Five-lined Skinks need wooded or partially wood edges with ample cover and basking sites such as stumps, logs, wood or brush piles, slabs of loose bark, etc. Removal of this type of habitat can eliminate skinks from an area.

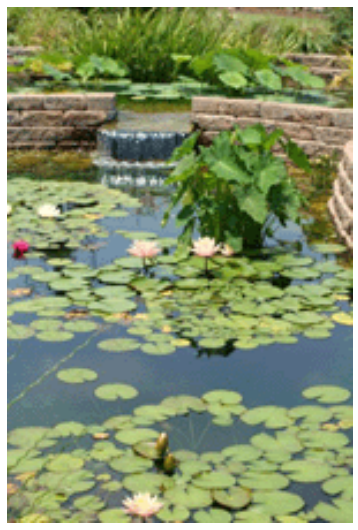
Five-lined Skinks are carnivores, feeding primarily on insects although they may also eat newborn mice or small frogs. They actively forage and use their speed to run down prey. Their speed is also their first line of defense. When it is warm they are often too wary and fast to be caught. If grabbed, the Five-lined Skink's tail can detach and continue to wriggle, distracting a potential predator. Once shed, the tail will grow back although not as long or shiny as the original. There is no limit to the number of new tails that can be grown, although growing a new tail takes a great deal of energy.

This skink's tail will grow back.

For more information on the reptiles of Marinette County, you can look at the same books that provided the information of this article, *Amphibians and Reptiles of the Great Lakes Region* by James H. Harding, and the WDNR publication *Turtles and Lizards of Wisconsin*. You can also visit the Wisconsin Herpetological Society at *http://www.madison.com/communities/whs/.*

Aquatic Invasive Species on the March: The Dangers of Water Gardening

By Chuck Druckrey, Water Resource Specialist



In the past few years, the DNR and others have been educating boaters and anglers about the dangers of spreading exotic species on their boat trailers and in their live wells. You may have seen billboards, heard public service announcements, or been visited at your favorite boat landing by a local volunteer or DNR Water Guard officer about "stopping the spread". While the threat from aquatic hitchhikers should be taken very seriously, it is not the only pathway for exotic species to invade our waterways. Water gardening, an increasingly popular pastime, is a significant threat that often goes unnoticed.

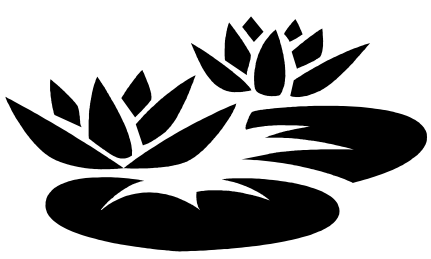
From the plastic garden pool with a built-in waterfall to the ½ acre landscape pond, enthusiasts spend nearly $1 billion dollars per year building, stocking and growing their water gardens. To serve this demand, garden centers and on-line retailers now offer a huge array of aquatic and wetland plants in every form and color. While some of these plants are native, most are exotic species. An exotic species becomes "invasive" when it can tolerate a wide range of conditions, is easy to establish, grows aggressively, and spreads in multiple ways. Many of these factors are just what you look for in an easy-to-grow garden plant.

Indeed, a quick review of on-line retailers shows that many offer plants that are currently on the Federal Noxious Weed list or listed as a prohibited species by the Wisconsin DNR. These include such popular water garden plants as parrot feather, yellow floating heart, flowering rush, and water chestnut. These and other plants have already proven to be invasive in Wisconsin or other northern climates. And you cannot count on the retailer knowing what they can or cannot ship to each state. In fact, when researchers at the University of Minnesota placed 14 online orders for restricted plants all but one of them was filled!

Even when a water gardener does his homework and orders noninvasive plants, there is still a significant danger of receiving unwanted invasive species. Researchers in the same study ordered 681 plants ordered from 40 different suppliers and found that 93% of the orders also contained plants, algae, fungi, insects, or other animals they did not order. *What was alarming is that 10% of the orders contained aquatic invasive species such as hydrilla, giant salvinia, or purple loosestrife. These often occurred as plant fragments, seedling, or seeds mixed in with the desired plant*. With most invasive species a small plant fragment or a single seed is more than enough to start a new invasion! In fact, the hydrilla infestation in Marinette County likely came from plant fragments on nursery stock from an east coast mail-order water garden store.

So what is the aspiring water gardener to do? Consider using native species. There are many native aquatic and wetland plants that look good and can fill your needs. While it's good to use natives, it's best to avoid collecting plants from the wild. The disturbance you create, especially when digging in wetlands, opens an area for invasive species to come in. Shop around and find growers that carry native species.

If you must use exotic plants, acquaint yourself with the DNR list of prohibited and restricted species (see column at right). **These plants should never be used.** When you receive plants, verify that your order is correct. To help remove aquatic hitchhikers, rinse the plants well in several changes of tap water until they are clean. Be on the lookout for snails, newly sprouted plants and any plant fragments.



When disposing of water garden plants it's vital that you do it correctly. **Never, never, never dispose of water garden plants or drain your water garden into a natural lake, pond, stream or wetland**. Unwanted plants should be disposed of in the garbage. Composting is risky because many seeds and tubers are very hardy and resistant to drying, decay, and high temperatures. Even native water garden plants should not be released to nearby waters since they may not be native to that particular lake or stream and any new introductions, even native ones, can cause problems.

So help do your part to prevent aquatic invasive species. Keep checking your boats and trailers for aquatic hitchhikers, **AND** know what you are planting in your water garden! Of course, if you do find any invasive aquatic species in our lakes and streams, please report them to the DNR or Marinette County LWCD.

For more information on safe water gardening, visit *http://www.seagrant.umn.edu/ais/watergardening or http://www.oar.noaa.gov/spotlite/archive/spot_watergarden.html*.

Wisconsin Invasive Species Control List (Draft NR 40)

Prohibited Species

Fanwort	*Camboba Carolina*
Australian swamp crop/ New Zealand Pygmy weed	*Crassula helmsii*
Dydimo/ Rock snot	*Didymosphenia geminate*
Brazillian waterweed	*Egeria densa*
Hydrilla	*Hydrilla verticillata*
European frogbit	*Hydrocharis morsus-ranae*
Oxygen weed/ African waterweed	*Lagorosiphon major*
Parrot feather	*Myriophyllum aquaticum*
Spiny naiad	*Najas minor*
Yellow floating heart	*Nymphoides pelata*
Water Chestnut	*Trapa natans*

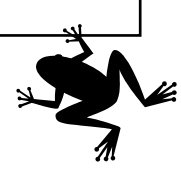
Restricted Species

Flowering rush	*Butomus umbellatus*
Eurasian water milfoil	*Myriophyllum spicatum*
Curly-leaf pondweed	*Potamogeton crispus*

Watch Species

Mosquito fern	*Azolla piñata*
Pond water starwort	*Callitriche stagnalis*
Water hyacinth	*Eichhorina crassipes*
Indian swampweed	*Hygrophila polysperma*
Water spinach/swamp Morning-glory	*Ipomoea aquatica*
Dotted Duckweed	*Landoltia punctata*
Asian marshweed	*Limnophila sessiliflora*
Watercress	*Naturtium aquaticum*
Ducklettuce	*Ottelia alismoides*
Water lettuce	*Pistia stratoites*
Salvinia species	*Salvinia spp.*

For a complete list of all Wisconsin species under consideration for listing, and for definitions and additional information go to *http://dnr.wi.gov/invasives*



Hydrilla Eradication Update!

By Chuck Druckrey, Water Resource Specialist

In August 2007 one of the most invasive aquatic plants in the country, hydrilla, was found growing in a private pond in Marinette County. This was the first time hydrilla had been found north of central Indiana. Immediately the landowner, Wisconsin DNR, Wisconsin DATCP and the Marinette County LWCD developed a plan to eradicate the invasive plant. The plan called for treating the pond with an aquatic herbicide, draining the pond for the winter, and evaluating the results in the spring. I'm happy to report that our efforts have so far been successful.

Hydrilla verticillata

Following the 2007 herbicide treatment, all visible hydrilla died back. In October the pond was pumped dry and the sediment was inspected for hydrilla tubers. As expected, the herbicide treatment had no effect on the tubers, which would remain viable in the sediment for years to come. Phase two of the plan called for allowing the sediment to freeze over winter in hopes of destroying the remaining tubers. An inspection of the sediment this spring showed that the tubers appear to have been destroyed by the freezing. However, yellow floating heart, another invasive exotic found in the pond, had survived the initial treatment and the winter drawdown.

In an effort to kill the yellow floating heart and guard against any hydrilla tubers that may have survived the winter, the pond will be filled with water and treated again throughout this summer with fluoridone, a broad-acting herbicide that kills plants as they germinate.

As part of the effort to assure eradication of this plant, the Marinette County LWCD will be surveying all lakes and ponds within 5 miles of the site this summer to see if hydrilla has escaped the pond. So far none has been found and we remain hopeful that the threat can be eliminated.

While we remain optimistic that we can actually eradicate these plants at this location, it should be noted that we are very lucky on several fronts - the landowner was curious enough to get help in identifying the plant, the infestation was caught early, it was in a lined pond that could be drained, and the pond was not connected to any other water bodies. If this plant had made its way to a natural lake or flowage, eradication would have been almost impossible.

For more information on invasive aquatic plants, visit *http://dnr.wi.gov/invasives/aquatic/* (DNR Aquatic Invasive Species Program) or *http://www.seagrant.wisc.edu/ais/* (University of Wisconsin Sea Grant Institute).

Marinette County's Icy Past: A Brief History & Evidence of Glaciation in Wisconsin

By Andrea Duca with photos courtesy of USGS

The Quaternary Period, the last 1.8 million years, is when most of Wisconsin's glacial advances occurred. The Laurentide Ice Sheet, named for the ancient landmass of Laurentia and was made up of what would become present day North America, had many lobes that greatly affected Wisconsin's landscape. These glaciations had a large impact on both the abundance or lack of soil in some areas, and the amount of outcrops of bedrock in other areas. The glaciers helped expose rich deposits of copper and iron ore that helped establish many Wisconsin cities and towns.

The Laurentide Ice Sheet reached its greatest extent in Wisconsin about 18,000 years ago, though it reached much farther south before that. It had five to six main lobes, which were the Chippewa, Superior, Ontonagan, Langlade, Green Bay and Lake Michigan. The lobe that helped to shape most of eastern Wisconsin, and that created some of the best preserved glacial features, is the Green Bay Lobe. The Green Bay Lobe at its maximum was about 125 km wide and more than 200 km long. It stretched through Michigan's Upper Peninsula down to Madison. The rivers flowing in Wisconsin during this time were dammed up, thus forming Glacial Lake Wisconsin and Glacial Lake Oshkosh.

<u>Glacial Lakes</u>

19,000 to 14,000 years ago, Lake Wisconsin formed mainly at the southwest terminus of the Green Bay Lobe around Sauk City, Mauston, Wisconsin Rapids and Wisconsin Dells in southwestern/ south-central Wisconsin. The flooding and receding of the glacial melt water quickly deepened the gorges and cut into the sandstones in that area, which are now called dells. Previous moraines left behind by the Green Bay Lobe dammed up some of the glacial melt water and further contributed to the cut landscape surrounding "Wisconsin Dells".

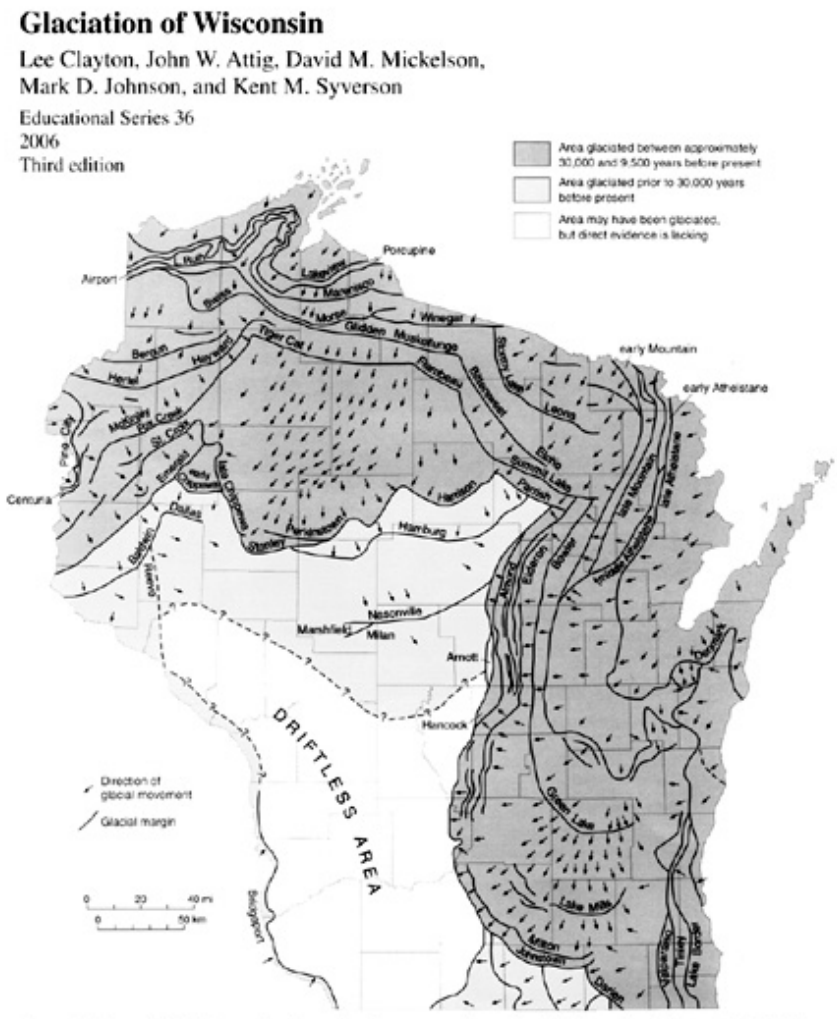


Figure 1. Phases of glaciation. A *phase* is a geologic event rather than a period of time. Most phases represent at least a minor advance of the edge of the Laurentide Ice Sheet. Each line marks the southern edge of the ice sheet during a phase of glaciation. For example, during the Johnstown Phase of the Wisconsin Glaciation, the southern edge of the Green Bay Lobe (see fig. 4 for lobe locations) of the Laurentide Ice Sheet advanced to the line marked "Johnstown" in south-central Wisconsin; figure 3 shows that this occurred approximately 16,000 years before present. Only the most recent phase is shown at any location.

Continued on page 7

Who You Gonna Call?

Spotlighting natural resource and conservation professionals in Marinette County so you know whom to call with your questions or concerns.

Linda Warren, UW-Extension Horticulture Program Assistant
1926 Hall Ave., Marinette WI 54143
(715) 732-7510
Email: *lwarren@marinettecounty.com*

What are your duties as the Horticulture Program Assistant?
This time of year, it's mostly researching and answering questions from the public about plants, gardening, and insect problems. People call from all over with enquiries about home gardening, what plants to use, pest control, etc. I also act as the liaison between UW-Extension and the Northern Lights Master Gardener Association, and help coordinate and teach the Master Gardener programs. Other duties include editing the newsletter, managing the UW-Extension website, and working with Scott Reuss, Horticulture & Agriculture Agent, on various programs and events throughout the year.

What do you most enjoy about your position?
I really enjoy answering people's questions. I like to learn, so each time a questions comes up I have to research it. All of our answers to the public are research-based, so I learn in the process too. I enjoy all aspects of my position - it's constantly different, so I get a lot of variety in what I do.

What are some projects you are currently working on?
We just got a grant from the University of Wisconsin Horticulture Department for upgrading the irrigation system at the Harmony Arboretum orchard – we'll be putting in a wind turbine and solar panels. We also will be continuing development of the Arboretum this year with projects like building a new storage shed and preparing for construction of the children's garden area. Of course the Marinette County Fair is coming up in August, so we have to plan for the UW-Extension Education Tent which is open all four days of the fair to answer questions and put on demonstrations.

What special events or programs are available to the public to learn more about horticulture topics and issues?
The *Nature & Horticulture Education Series* programs at Harmony Arboretum, to be held throughout the summer, include events like Tea in the Garden, the Summer Squash Festival, and Chili Night. Master Gardeners and UWEX staff will be on hand during these events to answer questions, give demonstrations, and talk about various topics. There is also the ongoing Lawn Care series that deals with various lawn issues for homeowners. In addition, the Master Gardener Area at Harmony is always open to the public at no charge. We also have the Beginner Gardener Program and the Spring Garden Conference, both held earlier in the year. The Spring Garden Conference is an especially major day-long event held at UW-Marinette with a wide variety of horticulture topics.

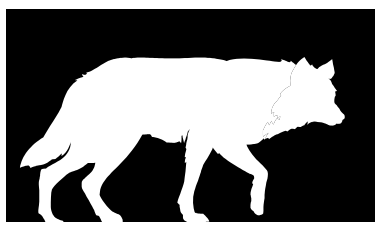
What is something you think people should know about the UWEX Horticulture Program?
Many people don't know our services are available and aren't aware how to utilize them. People can bring in samples or photos, or email us and we can research and answer questions for them. If we don't know the answer, we can forward information to UW-Madison and the specialists there can help. Each county may not necessarily have its own Horticulture Agent, but almost all counties have Master Gardener organizations that can help with horticulture issues and can contact UWEX staff for assistance.

Visit the Marinette County UWEX homepage at
http*://www.uwex.edu/ces/cty/marinette/index.html*

A Journey to Isle Royale National Park

Look for a special article in August's *Northwoods Journal* for a first-hand account of adventure at Isle Royale National Park! Anne Warren, Information & Education Specialist, will be participating in a week-long educator workshop in July sponsored by Michigan Tech University, the Isle Royale Institute, and Isle Royale National Park. Isle Royale is one of the least visited National Parks in the country, and is well-known for its ongoing predator-prey studies involving wolves and moose. To learn more about Isle Royale, visit the websites below:

- *http://iri.mtu.edu/index.htm* - Isle Royale Institute
- *http://www.nps.gov/isro/* - National Park Service
- *http://www.wolfmoose.mtu.edu/* - Michigan Tech. Univ.
- *http://www.irnha.org/* - Isle Royale Natural History Assn.



Where in Marinette County?

Tell us where this is and you could win a prize!

Please note that this year's "Where in Marinette County" contest photos are of a more historical nature, so be sure to take a close look at the photo subject!

To enter, send us a note including your name, address, and phone number or email *awarren@marinettecounty.com* to give us your answer. Any interesting facts about the subject are also welcome. Correct answers will be entered in a drawing for a $20 gift card from Walmart. ***Please respond by July 14, 2008.***

Congratulations to Marion Devroy of Peshtigo for guessing last month's photo of the Marinette County Asylum. It was located in Peshtigo and was torn down in the early 80s', but there are some dishes in the Peshtigo Fire Museum with the asylum pictured on them. Thanks to everyone sending in guesses and good luck to all with this month's photo!

Native Landscape Trees: Red Maple

By Scott Reuss, UW-Extension Agriculture & Horticulture Agent

In last month's NWJ, we discussed the various tree and shrub selection factors to consider. This month, we get in-depth with one of our common deciduous shade tree species, the red maple, or *Acer rubrum*.

Photo by Gary Fewless, UWGB Cofrin Center for Biodersity.

First, let's clear up one misconception: red maples are so named because most of them have brilliant red leaves in fall. They do not have scarlet leaves during the growing season - those are the non-native Norway Maple, *Acer platanoides*. Norway Maple is not a recommended rural landscape species, as it is very invasive.

Red maple is one of the more widely adaptable forest tree species. It is hardy and can be found on soils ranging from swamp edges to fairly dry ridges. Perfect conditions for growth would be found on a moderately well-drained, moist soil. However, it does handle an extremely wide range of native and landscape conditions, including variation in drainage, soil pH, and fertility.

Red maple is a very early-blooming tree, although it does not have a highly visible flower. Their flowers do produce copious amounts of pollen that can give a yellow coat to anything under the tree during flowering. The seeds ripen and fall about the same time that the leaves are getting to full size. Large numbers of seeds are produced per tree, and they can create a minor nuisance as weeds in surrounding flower beds or gardens, as they germinate quite well within a week or so after falling.

Photo by Kenneth Systma, WI State Herbarium.

One characteristic that allows red maples to fit into landscapes very nicely is that they do fairly well in partial to full shade, especially as younger trees. This allows you to plant them underneath other shade trees that are becoming problematic, get the reds established and growing well, and then take out the other trees. This feature gives you a significant head start on filling the space and achieving shade in your areas.

It is critical to plant your red maple specimens correctly to get them started on the right track. If you plant them too deeply, they are prone to a physical problem called *girdling root*, where roots grow up to get to oxygen, then lose their sense of direction and often grow back across the tree trunk. As the tree and the roots grow, this forms a "noose" on that portion of the trunk, slowly killing it.

Example of girdling root.

The proper planting depth is at what is called the *zone of rapid taper*. To find this, you generally need to either remove all the soil from a containerized tree, or dig down in a balled-and-burlapped tree and find where the roots arch away from the trunk, rather than going straight out from the trunk.

To learn more about proper tree planting techniques, view the DNR online brochure (*http://dnr.wi.gov/forestry/publications/newtreeplanting.pdf*) or plan on attending a tree planting workshop. Florence County UW-Extension is hosting a five-session series this year on proper tree planting and tree care, with the first session on June 11 at the Florence Town Hall & Community Center starting at 6 p.m. Contact me at 715-732-7510 or send me an e-mail at *scott.reuss@ces.uwex.edu* for more information on these seminars or other opportunities.

Lastly, there are various red maple cultivars you can purchase. The biggest difference from cultivar to cultivar is their final size and the fall leaf color, so pay attention to those details if you are purchasing a named cultivar.

Planting a Future Forest?

If you are thinking about planting tree seedlings next spring, now is the time to start planning. When reforesting larger areas of land with tree seedlings, proper planning now can make your tree planting project easier and more successful.

Planning begins with meeting with a forester to develop a tree planting plan for your property. A forester can help you determine the best trees to plant on your land and the proper spacing. Often, site preparation is also recommended prior to planting to reduce the competing vegetation, thereby improving seedling survival. Site preparation is oftentimes best completed during the fall months prior to planting.

Cost sharing is also available for some reforestation and is aimed at landowners who want to plant seedlings over a large area to increase timber production, enhance wildlife habitat, or achieve other management goals. It is recommended to apply early to guarantee funding for planting the following spring.

For questions or more information on reforestation, contact your local DNR Forester. You can also visit the DNR Division of Forestry website at *http://dnr.wi.gov/forestry/* or check out their forestry links page at *http://dnr.wi.gov/forestry/relatedsites.htm*.

Northwoods Journal Online

Would you like to read current issues of the *Northwoods Journal* online? Go to *www.marinettecounty.com* and click on the link at the bottom of the page. We can even send you an e-mail reminder when each new issue is posted on our website – just contact Anne at *awarren@marinettecounty.com* or call her at 715-732-7784.

Marinette County's Icy Past continued from page 4

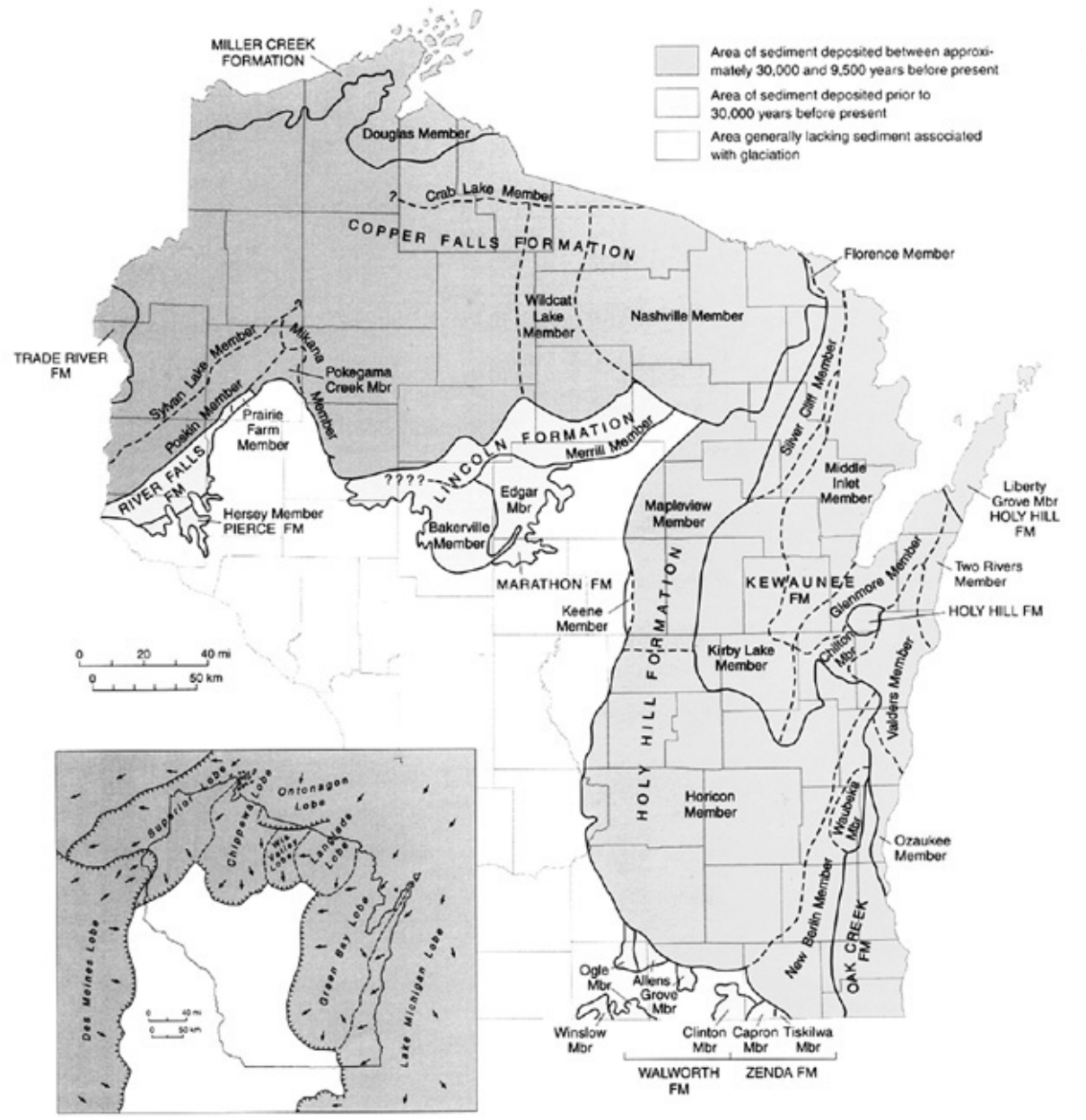


Figure 4. Lobes of the Laurentide Ice Sheet in Wisconsin during the Wisconsin Glaciation. The arrows indicate the direction of ice movement, which was influenced by topography. Lowlands, such as the Great Lakes basins, channeled the ice to form the lobes shown here.

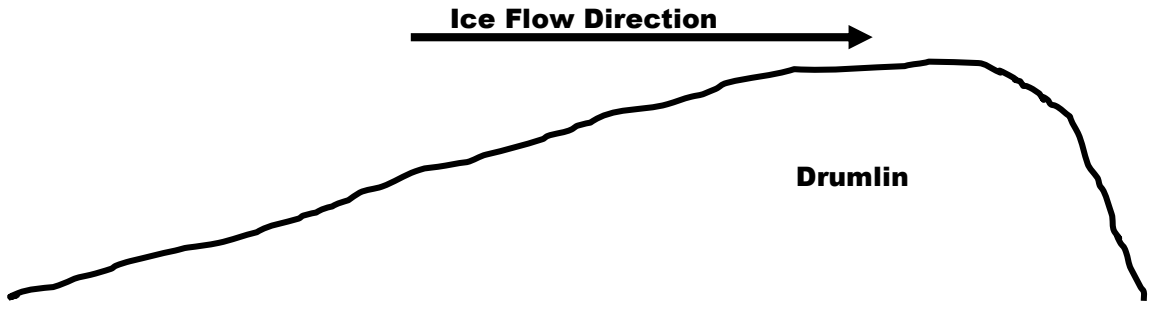
Figure 5. Distribution of Pleistocene lithostratigraphic units in Wisconsin. Formations are separated by solid lines, and members are separated by dashed lines.

Courtesy of UW-Extension & Wisconsin Geological & Natural History Survey.

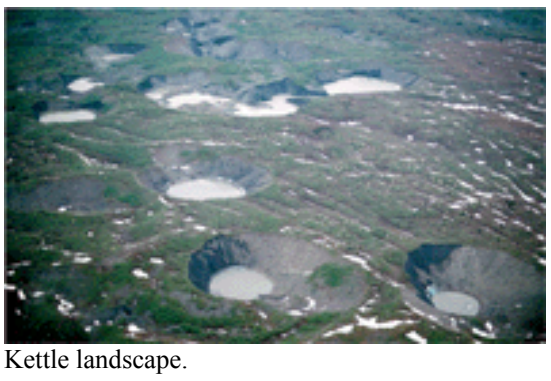
Glacial Lake Oshkosh, however, was farther north than Lake Wisconsin and was formed about 15,000-13,000 years ago. As the Green Bay lobe receded northward, Lake Oshkosh appears to have traveled with it. Approximately 15,000 years ago, Lake Oshkosh stretched as far south as the area around Portage and as far north as a few tens of miles west of Gillett. Throughout the "life-span" of Lake Oshkosh, it flooded and drained many times depending on where the Green Bay Lobe ice front was. By 13,500 years ago, however, Lake Oshkosh had followed the receding Green Bay Lobe and sat where the current bay of Green Bay is, northward through southern Marinette and eastern Oconto Counties.

<u>Evidence and Examples of Glaciation</u>

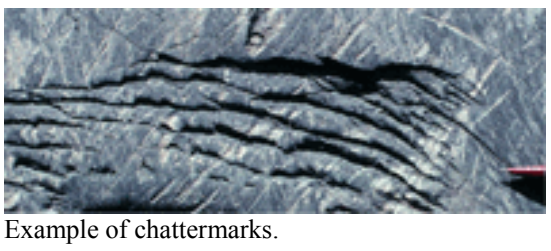
Some of the many features left behind by the glaciers are *drumlins*, *eskers*, *moraines*, *chatter marks*, *kettles* and *striations*. Drumlins are very large streamlined hills of till, which are very poorly sorted material deposited by the glacier. Drumlins and eskers alike are very good ice flow indicators because of their linear shape. Drumlins, for example, are steeply sloped on one side and have a more gentle flow on the other. Thus, the more gently sloped side is direction that ice flow was moving, pointing toward the more steeply sloped side. Drumlins can be found in many places in Wisconsin where there was glaciation, and can easily be seen on topographic maps and aerial photographs.

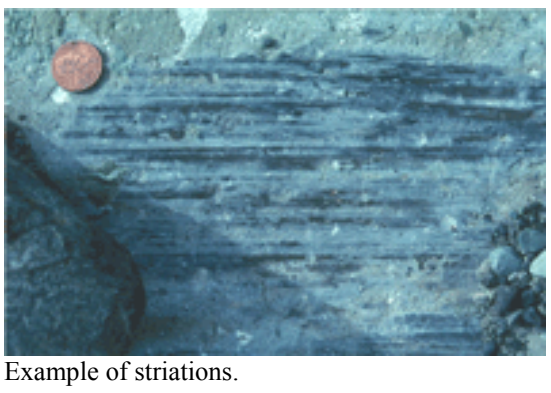


Eskers are deposits that were felt behind by sub-glacial water flow and are often composed of glacial till and other materials. The more common name for an esker is a *hogsback*. Many times the eskers are excavated out and the till is used for aggregate, contributing to the economy of the community. Eskers tend to be long linear structures; many examples of eskers can be found all over Marinette County, with a very easily recognizable one running parallel to Highway 64 in Pound. Moraines are jumbled hills of unsorted, unstratified glacial debris found at the sides or front of a glacier. A kettle is a depression formed by the melting of a large block of glacial ice that was partially or completely buried; some kettles hold water and formed kettle lakes.


Kettle landscape.

Chatter marks and *striations* are more of a type of glacial feature rather than a landform. They are both formed when a glacier is moving over exposed bedrock. A chatter mark is semicircular in shape and generally indicates the ice flow direction. Striations, on the other hand, are lines or grooves left in bedrock by glacial ice that had some kind of obstruction lodged in it. Excellent examples of chatter marks and glacial striations can be found at the High Falls Dam and Reservoir near Crooked Lake in Marinette County.


Example of chattermarks.


Example of striations.


Moraine off of Hwy. 21 near Devil's Lake State Park. Photo by Andrea Duca.

A good reference for basic Wisconsin geology is the book *Roadside Geology*, by John W. Attig and Robert H. Dott. For more information, visit these sites on the web:

www.usgs.gov (U.S. Geological Survey)

http://www.uwgb.edu/dutchs/geolwisc/geowisc.htm (index of geological topics)

http://www.uwex.edu/wgnhs/index.html (Wisconsin Geological & Natural History Survey)

Area Events Calendar

June-August **Bands At Badger Park**. Free concerts, 6:30-8:30pm at Badger Park in Peshtigo. Peshtigo Women's Club selling refreshments. July 16/Youth Concert, July 30/Music Jar sponsored by CellCom. Call (715) 582-0566 for more information and schedule.

June-August **Concerts in the Park**. Free concerts, Thursday evenings (except July 3 & August 7) at the Marina Park Bandshell in Menominee, MI. Contact the Marinette-Menominee Chamber of Commerce at (715) 735-6681 or (800) 236-6681.

June-August **Sunset Concert Series**. Tuesday evenings at 7pm at Stephenson Island - contact the Marinette Area Chamber of Commerce at (715) 735-6681 or (800) 236-6681.

July 4-5 **Area 4th of July Celebrations**. Marinette, Crivitz, Goodman, Wausaukee. For more information, call local city hall or visit the county calendar at *www.marinettecounty.com*.

July 9 **Tea in the Garden at Harmony Arboretum**. See information below.

July 11 **Marinette County Elderly Services 3rd Annual Golf Scramble.** 8am at Hunter's Glen Golf Club in Crivitz. Four person teams, $75 entry fee includes golf, cart, hole events and dinner. Time 8am registration, 9am shot gun start. Rain or shine. All proceeds benefit elderly persons of Marinette County.

July 12-13 **Northeast District 4H Open Horse Show**. Marinette County Fairgrounds, Wausaukee, WI. July 12, Pleasure Show Day and July 13, Gymkhana Show Day (speed). Stalls available and overnight rough camping. Questions call Julia at 920-897-3439.

July 18-20 **Bay Jammer Festival**. Menominee Historic Waterfront District. For more information, call Steve at (920) 596-2799 or visit online at *http://www.bayjammer.htmlplanet.com/*.

July 19 **8th Annual Rod & Harley Bike Show**. 9am-5pm, Vandervest Harley-Davidson of Peshtigo. Check in times for bikes 8-11:30am. $15/pre-registration, $20/gate. Hot rods 9-11:30am, registration $10. Show awards at 3pm. Spectator voting 9am-2pm. Registration forms can be picked up at Vandervest Harley-Davidson. Enjoy live music, food, refreshments, raffles and sales.

August 2-3 **Marinette County 4H Horse Project Open Show.** Marinette County Fairgrounds, Wausaukee, WI. Aug. 2/ pleasure show day, Aug. 3/gymkhana show day (speed). Questions call Julia, 920-897-3439or *jdlstables@centurytel.net*. Stalls available, overnight rough camping available.

August 6-10 **26th Annual Menominee Waterfront Festival.** Contact the Marinette Menominee Chamber at 715-735-6681 for a complete schedule.

August 14 **Prairie Hike at Harmony Arboretum.** See information below.

August 16 **Rainbow Run.** 9am, start & finish at Stephenson Public Library in Marinette. Registration fee: family/$15, individual/$8. All entry fees donated to Rainbow House. 8am registration and refreshments following event. All ages welcome, families with children may bring bikes, wagons, strollers, etc. No pets please. More information or to volunteer call 735-6656 or email *jpeters74@new.rr.com*.

August 16 **Flea Market.** 7am-1pm, Menominee Courthouse Property, corner of 10th St. & 10th Ave. Sponsored by Marinette Menominee Area Chamber of Commerce. For more information call Laurie at 735-6681 or *lkarasti@centurytel.net*.

August 19 **Summer Squash Spectacular at Harmony Arboretum.** See information below.

Area Farmers' Markets

Marinette Farmers' Market. Tuesday, Friday, and Saturday mornings at Main Street Market, Merchants Park, corner of Main & Wells Streets, downtown.

Amberg Flea & Farmers' Market. Occasional Saturdays, at Amberg Antiques & Sweets, Highway 141. Call for more information & schedule: 715-759-5343.

Amberg Farmer's Market. Saturdays from May through October. Downtown Amberg.

Crivitz Flea & Farmers' Market. Thursday mornings in the Crivitz Town Hall parking lot.

Marinette County
Harmony Arboretum
gardens: prairie: hardwood forest

½ mile south of Hwy 64, on County E

UW Extension : 715-732-7510
Land Information Office: 715-732-7780
http://www.marinettecounty.com

Harmony Arboretum Schedule of Events

Located 7 miles west of Marinette, ½ mile south of State Highway 64 on County E. All programs are free unless otherwise stated.

Wednesday, July 9th: Tea in the Garden, 6:30-8:00 p.m.
Visit the Demonstration Gardens that are maintained by Master Gardener Volunteers. Take a walk around the new gardens and get your horticulture questions answered by Master Gardeners. Have some tea in the garden while looking over the master plan for this 3-acre plot. Call the UW-Extension office at (715) 732-7510 for more information.

Thursday, August 14th: Prairie Walk, 6:30-8:00 p.m.
Late summer is the time when prairie flowers bloom and grasses turn golden, and a wonderful time to spend an evening in the prairie! Prairies once covered two million acres of Wisconsin. As Europeans settled in Wisconsin, they converted the treeless prairies into crop fields and learned to control the sweep of wildfires. Today, less than 12,000 scattered acres of prairie exist in Wisconsin. During the program, Marinette County staff will talk about what exactly a prairie is, why and how people restore prairies today, and how to identify different kinds of prairie plants. Call the Marinette County Land & Water Conservation at (715) 732-7780 for more information or to register for the free program.

Tuesday, August 19th: Summer Squash Spectacular, 6:00-8:00 p.m.
Although zucchini sometimes gets a bad rap, the summer squashes are some of the most versatile vegetables in our gardens. This event will highlight the variation of summer squashes available, dozens of recipes to sample, zucchini car and boat races, and many other events. Come join the fun! Call the UW-Extension office at (715) 732-7510 for more information.